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1. List full details of all hotels

SELECT *

FROM Hotel;

	hotel_no [PK] character (4)	name character varying (50)	city character varying (20)
1	H111	Empire Hotel	New York
2	H235	Park Place	New York
3	H432	Brownstone Hotel	Toronto
4	H498	James Plaza	Toronto
5	H193	Devon Hotel	Boston
6	H437	Clairmont Hotel	Boston

2. List full details of all hotels in New York

SELECT *

FROM Hotel

WHERE City = 'New York';

	hotel_no [PK] character (4)	name character varying (50)	city character varying (20)
1	H111	Empire Hotel	New York
2	H235	Park Place	New York

3. **List the names and cities of all guests, ordered according to their cities**

SELECT City, Name
FROM Guest
ORDER BY City;

	city character varying (20) 🔒	name character varying (20) 🔒
1	Atlanta	Robert Swift
2	Baltimore	Tara Cummings
3	Baltimore	Edward Cane
4	Philadelphia	Tom Hancock
5	Pittsburgh	Adam Wayne
6	Pittsburgh	Vanessa Parry

4. **List all details for non-smoking rooms in ascending order of price**

SELECT *
FROM Room
WHERE Type = 'N';

	room_no [PK] integer	hotel_no character (4)	type character (1)	price numeric
1	412	H111	N	145.00
2	1267	H235	N	175.00
3	1289	H235	N	195.00
4	345	H498	N	160.00
5	467	H498	N	180.00
6	1201	H193	N	175.00
7	257	H437	N	140.00
8	223	H437	N	155.00

5. List the number of hotels there are

SELECT COUNT(Hotel_No)
FROM Hotel;

	count bigint 🔒
1	6

6. List the cities in which guests live. Each city should be listed only once.

SELECT City
FROM Guest
GROUP BY City;

	city character varying (20) 🔒
1	Pittsburgh
2	Philadelphia
3	Baltimore
4	Atlanta

7. List the average price of a room

SELECT AVG(Price)
FROM Room;

	avg numeric 🔒
1	155.6666666

8. List hotel names, their room numbers, and the type of that room

SELECT Hotel.Name, Room.Room_No, Room.Type
FROM Room JOIN Hotel
ON Hotel.Hotel_No = Room.Hotel_No;

	name character varying (50) 🔒	room_no integer 🔒	type character (1) 🔒
1	Empire Hotel	412	N
2	Empire Hotel	313	S
3	Park Place	1289	N
4	Park Place	1267	N
5	Brownstone Hotel	898	S
6	Brownstone Hotel	876	S
7	James Plaza	467	N
8	James Plaza	345	N
9	Devon Hotel	1201	N
10	Devon Hotel	1001	S
11	Clairmont Hotel	223	N
12	Clairmont Hotel	257	N

9. List the hotel names, booking dates, and room numbers for all hotels in New York

SELECT Hotel.Name, Booking.Date_From, Booking.Date_To,
Booking.Room_No
FROM Hotel
JOIN Booking
ON Booking.Hotel_No = Hotel.Hotel_No
WHERE Hotel.City = 'New York'

	name character varying (50) 🔒	date_from date 🔒	date_to date 🔒	room_no integer 🔒
1	Empire Hotel	1999-08-10	1999-08-15	412
2	Empire Hotel	1999-08-18	1999-08-21	412
3	Park Place	1999-09-05	1999-09-12	1267

10.What is the number of bookings that started in the month of September?

SELECT COUNT(Hotel_No)
FROM Booking
WHERE Date_From >= '1999-09-01' AND Date_From < '1999-10-01';

	count bigint
1	4

11.List the names and cities of guests who began a stay in New York in August

SELECT Guest.Name, Guest.City
FROM Guest JOIN Booking ON Guest.Guest_No = Booking.Guest_No
JOIN Hotel ON Booking.Hotel_No = Hotel.Hotel_No
WHERE Hotel.City = 'New York'
AND Booking.Date_From >= '1999-08-01'
AND Booking.Date_From < '1999-09-01';

	name character varying (20)	city character varying (20)
1	Adam Wayne	Pittsburgh
2	Tara Cummings	Baltimore

12. List the hotel names and room numbers of any hotel rooms that have not been booked

SELECT Hotel.Name, Room.Room_No

FROM Hotel JOIN Room

ON Hotel.Hotel_No = Room.Hotel_No

WHERE Room.Room_No

NOT IN(SELECT Room_No FROM Booking)

	name character varying (50) 🔒	room_no 🔒 integer
1	Empire Hotel	313
2	Park Place	1289
3	Brownstone Hotel	898
4	Brownstone Hotel	876
5	Clairmont Hotel	257

13. List the hotel name and city of the hotel with the highest priced room

SELECT Hotel.Name, Hotel.City

FROM Hotel JOIN Room

ON Hotel.Hotel_No = Room.Hotel_No

ORDER BY Room.Price

DESC LIMIT 1

	name character varying (50) 🔒	city character varying (20) 🔒
1	Park Place	New York

14. List hotel names, room numbers, cities, and prices for hotels that have rooms with prices lower than the lowest priced room in a Boston hotel

SELECT Hotel.Name, Room.Room_No, Hotel.City, Room.Price

FROM Hotel

JOIN Room

ON Hotel.Hotel_No = Room.Hotel_No

WHERE Room.Price <

(SELECT Room.Price

FROM Room

JOIN Hotel

ON Room.Hotel_No = Hotel.Hotel_No

WHERE Hotel.City = 'Boston'

ORDER BY Room.Price

LIMIT 1)

	name character varying (50) 🔒	room_no integer 🔒	city character varying (20) 🔒	price numeric 🔒
1	Brownstone Hotel	898	Toronto	124.00
2	Brownstone Hotel	876	Toronto	124.00

15. List the average price of a room grouped by city

SELECT Hotel.City, AVG(Room.Price) AS "Avg Price"

FROM Hotel

JOIN Room

ON Hotel.Hotel_No = Room.Hotel_No

GROUP BY Hotel.City

	city character varying (20) 🔒	Avg Price numeric 🔒
1	New York	165.0000000
2	Boston	155.0000000
3	Toronto	147.0000000